PATENT APPLICATION

Attorney Docket No. 5793

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of	
Douglas R. DYKAAR, et al.	Group Art Unit: 2851
Serial No.: 10/053,557	Examiner: To Be Determined
Filed: January 24, 2002	
For: Method and Apparatus for a Two-Chip Cinematography Camera	

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to the examination of the application, please amend the above-identified application as follows.

IN THE DESCRIPTION OF THE RELATED ART:

On page 2 of the original specification, under the section heading "Description of the Related Art", please delete the paragraph beginning at line 15 and ending at line 24, and replace such deleted paragraph with a replacement paragraph. A clean version of the replacement paragraph as required under 37 C.F.R. 1.121(b)(1)(ii) is attached to this paper as a separate document, and labeled Appendix A. In addition, as required under 37 C.F.R. 1.121(b)(1)(iii), applicant provides another version of the replacement paragraph, which is marked-up to show all changes relative to the previous version of the paragraph. The changes are shown by brackets for deleted matter, and underlining for added matter. The marked replacement paragraph is labeled Appendix B.

IN THE DESCRIPTION OF THE DRAWINGS:

On pages 6-8 of the original specification, under the section heading "Description of the Drawings", please delete the original section, and replace such deleted section with a replacement section. A clean version of the replacement section as required under 37 C.F.R. 1.121(b)(2)(ii) is attached to this paper as a separate document, and labeled Appendix C. In addition, as required under 37 C.F.R. 1.121(b)(2)(iii), applicant provides another version of the replacement section, which is marked-up to show all changes relative to the previous version of the section. The changes are shown by brackets for deleted matter, and underlining for added matter. The marked replacement section is labeled Appendix D.

IN THE DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please delete the following paragraphs and replace such deleted paragraphs with replacement paragraphs:

On page 15 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", the paragraph which begins at line 4 and ends at line 12.

On page 19 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", the paragraph which begins at line 27 on page 19 and ends at line 5 on page 20.

On page 21 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", the paragraph which begins at line 18 and ends at line 26.

On page 25 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", the paragraph which begins at line 15 and ends at line 25.

On page 28 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", the paragraph which begins at line 10 and ends at line 18.

On page 30 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", the paragraph which begins at line 27 on page 30 and ends at line 5 on page 31.

On page 38 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", the paragraph which begins at line 18 and ends at line 25.

On page 49 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", the paragraph which begins at line 14 and ends at line 23.

A clean version of the replacement paragraphs as required under 37 C.F.R. 1.121(b)(1)(ii) is attached to this paper as a separate document, and labeled Appendix E. In addition, as required under 37 C.F.R. 1.121(b)(1)(iii), applicant provides another version of the replacement paragraphs, which are marked-up to show all changes relative to the previous version of the paragraphs The changes are shown by brackets for deleted matter, and underlining for added matter. The marked replacement paragraphs are labeled Appendix F.

IN THE CLAIMS

Please rewrite claim 59. A clean version of the rewritten claim as required under 37 C.F.R. 1.121(c)(1)(i) is attached to this paper as a separate document, and labeled Appendix G. In addition, as required under 37 C.F.R. 1.121(c)(1)(ii), applicant provides another version of the rewritten claim, which is marked-up to show all changes relative to the previous version of the

claim. The changes are shown by brackets for deleted matter, and underlining for added matter. The marked-up replacement claim is labeled Appendix H.

REMARKS

By this Amendment, the specification is amended so as to reflect changes which were made to the drawings so that the drawings are in compliance with 37 C.F.R. § 1.84. In addition, a minor typographical error in claim 59 has been corrected. No new matter has been introduced into the disclosure of this application.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Consideration and allowance in due course are earnestly solicited.

Should the Examiner believe that any further action is necessary to place the application in condition for allowance, he or she is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

DORSEY & WHITNEY, LLP

By: Daniel E. Fisher

Daniel E. Fisher
Registration No. 34,162

1001 Pennsylvania Ave, South Tower
Suite 300 South
Washington, D.C. 20004
(202) 824-8800

Dated: 4/29/02

APPENDIX A

In this appendix, as required under 37 C.F.R. 1.121(b)(1)(ii), is a clean version of the paragraph which replaces the paragraph deleted from page 2 of the original specification, under the section heading "Description of the Related Art", which begins at line 15 and ends at line 24.

In FIG. 29A, , known camera 2000 includes lens 2010 to focus an image conjugate through color filter wheel 2050 onto imaging sensor 2040. Color filter wheel 2050 is divided into three color sectors, each sector representing one-third of a circle. Each sector 2052, 2054 and 2056 passes light (i.e., transmits, not reflects) of a different one of the three primary colors (i.e., blue, red and green) (FIG. 29B). A color wheel assembly includes motor 2020 to spin color filter wheel 2050. To obtain a full color image requires that sensor 2040 form three complete images for each revolution of color filter wheel 2050. When the camera system requires that moving images be captured at a particular rate, the time available for capture of each color image is just one-third of the frame time. This limits the sensitivity of the camera.

APPENDIX B

In this appendix, as required under 37 C.F.R. 1.121(b)(1)(iii), the paragraph which replaces the paragraph deleted from page 2 of the original specification, under the section heading "Description of the Related Art", which begins at line 15 and ends at line 24 is marked up to show all the changes relative to the previous version of the paragraph. The changes are shown by brackets for deleted matter and underlining for added matter.

In FIG. [29] 29A, , known camera 2000 includes lens 2010 to focus an image conjugate through color filter wheel 2050 onto imaging sensor 2040. Color filter wheel 2050 is divided into three color sectors, each sector representing one-third of a circle. Each sector 2052, 2054 and 2056 passes light (i.e., transmits, not reflects) of a different one of the three primary colors (i.e., blue, red and green) (FIG. 29B). A color wheel assembly includes motor 2020 to spin color filter wheel 2050. To obtain a full color image requires that sensor 2040 form three complete images for each revolution of color filter wheel 2050. When the camera system requires that moving images be captured at a particular rate, the time available for capture of each color image is just one-third of the frame time. This limits the sensitivity of the camera.

APPENDIX C

In this appendix, as required under 37 C.F.R. 1.121(b)(2)(ii), is a clean version of the replacement section entitled "Brief Description of the Drawings".

--BRIEF DESCRIPTION OF DRAWINGS

The invention will be described in detail in the following description of preferred embodiments with reference to the following figures wherein:

FIG. 1 is a schematic diagram of a preferred embodiment of a camera according to the present invention;

FIG. 2 is a schematic diagram of a first embodiment of a rotatable structure;

FIG. 3 is a schematic diagram of a second embodiment of the rotatable structure;

FIG. 4 is a schematic diagram of a third embodiment of the rotatable structure;

FIG. 5 is a schematic diagram of fourth embodiment of the rotatable structure;

FIG. 6 is a schematic diagram of a fifth embodiment of the rotatable structure;

FIG. 7 is a schematic diagram of a choppered-wheel embodiment of the rotatable structure;

FIG. 8 is a illustration of a imaging sensor pixel array;

FIG. 9 is an illustration of pixels overlaid with color microfilters;

FIG. 10 is an illustration of an opaque reflection sector coated with a color selective coating;

FIG. 11 is an illustration of a transparent reflection sector coated with a color selective coating;

FIG. 12 is an illustration of a transmission sector coated with a color selective coating;

FIG. 13 is a schematic diagram of a sixth embodiment of the rotatable structure having a larger reflection sector;

FIG. 14 is a schematic diagram of a seventh embodiment of the rotatable structure having a larger transmission sector;

FIG. 15 is a schematic diagram of an eighth embodiment of the rotatable structure having a larger reflection sector;

FIG. 16 is a schematic diagram of a ninth embodiment of the rotatable structure having a larger transmission sector;

FIG. 17 is a schematic diagram of a preferred embodiment of a 3-chip camera according to the present invention;

FIG. 18A is a schematic diagram of a rotatable structure to be used in the 3-chip camera of the present invention;

FIG. 18B is a front view of the rotatable structures of the 3-chip camera in operation;

FIGS. 18C and 18D are plan and sectional views of an alternative embodiment of the rotatable structure of the present invention;

FIG. 19 is an graphic illustration of obtaining a third color from two selected colors using post-processing

FIGS. 20A and 20B are timing diagrams of the operation of the first embodiment of the rotatable structure;

FIGS. 21A and 21B are timing diagrams of the operation of the second embodiment of the rotatable structure;

FIGS. 22A and 22B are timing diagrams of an alternative operation of the second embodiment of the rotatable structure;

FIGS. 23A and 23B are timing diagrams of the operation of the third embodiment of the rotatable structure;

FIGS. 24A and 24B are timing diagrams of the operation of the fourth embodiment of the rotatable structure;

FIGS. 25A and 25B are timing diagrams of the operation of the fifth embodiment of the rotatable structure;

FIGS. 26A and 26B are timing diagrams of the operation of the choppered-wheel;

FIGS. 27A, 27B and 27C are timing diagrams of the operation of the 3-chip camera;

FIGS. 28 is a schematic diagram of an alternative embodiment of the invention; and

FIGS. 29A and 29B are schematic diagrams of a known color camera.

APPENDIX D

In this appendix, as required under 37 C.F.R. 1.121(b)(2)(iii), the section entitled "Brief Description of the Drawings" is marked up to show all the changes relative to the previous version of the paragraph. The changes are shown by brackets for deleted matter and underlining for added matter.

--BRIEF DESCRIPTION OF DRAWINGS

The invention will be described in detail in the following description of preferred embodiments with reference to the following figures wherein:

FIG. 1 is a schematic diagram of a preferred embodiment of a camera according to the present invention;

FIG. 2 is a schematic diagram of a first embodiment of a rotatable structure;

FIG. 3 is a schematic diagram of a second embodiment of the rotatable structure;

FIG. 4 is a schematic diagram of a third embodiment of the rotatable structure;

FIG. 5 is a schematic diagram of fourth embodiment of the rotatable structure;

FIG. 6 is a schematic diagram of a fifth embodiment of the rotatable structure;

FIG. 7 is a schematic diagram of a choppered-wheel embodiment of the rotatable structure;

FIG. 8 is a illustration of a imaging sensor pixel array;

FIG. 9 is an illustration of pixels overlaid with color microfilters;

FIG. 10 is an illustration of an opaque reflection sector coated with a color selective coating;

FIG. 11 is an illustration of a transparent reflection sector coated with a color selective coating;

FIG. 12 is an illustration of a transmission sector coated with a color selective coating;

FIG. 13 is a schematic diagram of a sixth embodiment of the rotatable structure having a larger reflection sector;

FIG. 14 is a schematic diagram of a seventh embodiment of the rotatable structure having a larger transmission sector;

FIG. 15 is a schematic diagram of an eighth embodiment of the rotatable structure having a larger reflection sector;

FIG. 16 is a schematic diagram of a ninth embodiment of the rotatable structure having a larger transmission sector;

FIG. 17 is a schematic diagram of a preferred embodiment of a 3-chip camera according to the present invention;

FIG. 18A is a schematic diagram of a rotatable structure to be used in the 3-chip camera of the present invention;

FIG. 18B is a front view of the rotatable structures of the 3-chip camera in operation;

FIGS. 18C and 18D are plan and sectional views of an alternative embodiment of the rotatable structure of the present invention;

FIG. 19 is an graphic illustration of obtaining a third color from two selected colors using post-processing

[FIG. 20 is] FIGS. 20A and 20B are timing [diagram] diagrams of the operation of the first embodiment of the rotatable structure;

[FIG. 21 is] FIGS. 21A and 21B are timing [diagram] diagrams of the operation of the second embodiment of the rotatable structure;

[FIG. 22 is] FIGS. 22A and 22B are timing [diagram] diagrams of an alternative operation of the second embodiment of the rotatable structure;

[FIG. 23 is] FIGS. 23A and 23B are timing [diagram] diagrams of the operation of the third embodiment of the rotatable structure;

[FIG. 24 is] FIGS. 24A and 24B are timing [diagram] diagrams of the operation of the fourth embodiment of the rotatable structure;

[FIG. 25 is] FIGS. 25A and 25B are timing [diagram] diagrams of the operation of the fifth embodiment of the rotatable structure;

[FIG. 26 is] FIGS. 26A and 26B are timing [diagram] diagrams of the operation of the choppered-wheel;

[FIG. 27 is] FIGS. 27A, 27B and 27C are timing [diagram] diagrams of the operation of the 3-chip camera;

FIG. 28 is a schematic diagram of an alternative embodiment of the invention; and

[FIG. 29 is] FIGS. 29A and 29B are schematic [diagram] diagrams of a known color camera.

APPENDIX E

In this appendix, as required under 37 C.F.R. 1.121(b)(1)(ii), are clean versions of the paragraphs which replace the paragraphs deleted from the original specification, under the section heading "Detailed Description of the Preferred Embodiments".

Paragraph deleted from page 15 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 4 and ends at line 12.

FIGS. 20A and 20B illustrate timing diagrams for the operation of first rotatable structure 110. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1000 (FIG. 20A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1050 (FIG. 20B). The operation of first rotatable structure 110 is separated into eight regions (denoted by Roman numerals I-VIII) that correspond to the sectors of first rotatable structure 110. The vertical axes in timing diagrams 1000 and 1050 represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes represent the time, or phase, of the rotation of first rotatable structure 110.

Paragraph deleted from page 19 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 27 on page 19 and ends at line 5 on page 20.

FIGS. 21 A and 21B illustrate timing diagrams for one embodiment of the operation of second rotatable structure 120. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1100 (FIG. 21A) and timing for the operation of second imaging sensor 16 is denoted generally by

reference numeral 1150 (FIG. 21B). The operation of second rotatable structure 120 is separated into six regions (denoted by Roman numerals I-VI) that correspond to the sectors of second rotatable structure 120. The vertical axes in timing diagrams 1100 and 1150 represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes represent the time, or phase, of the rotation of second rotatable structure 120.

Paragraph deleted from page 21 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 18 and ends at line 26.

FIGS. 22A and 22B illustrate timing diagrams for another embodiment of the operation of second rotatable structure 120. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1200 (FIG. 22A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1250 (FIG. 22B). The operation of second rotatable structure 120 is separated into six regions (denoted by Roman numerals I-VI) that correspond to the sectors of second rotatable structure 120. The vertical axes in timing diagrams 1200 and 1250 represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes represent the time, or phase, of the rotation of second rotatable structure 120.

Paragraph deleted from page 25 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 15 and ends at line 23.

FIGS. 23A and 23B illustrate timing diagrams for the operation of third rotatable structure 130. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1300 (FIG. 23A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1350 (FIG. 23B). The operation of third rotatable structure 130 is separated into ten regions (denoted by Roman numerals I-X) that correspond to the sectors of third rotatable structure 130. The vertical axes in timing diagrams 1300 and 1350 represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes represent the time, or phase, of the rotation of third rotatable structure 130.

Paragraph deleted from page 28 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 10 and ends at line 18.

FIGS. 24A and 24B illustrate timing diagrams for the operation of fourth rotatable structure 150. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1400 (FIG. 24A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1450 (FIG. 24B). The operation of fourth rotatable structure 150 is separated into twelve regions (denoted by Roman numerals I-XII) that correspond to the sectors of fourth rotatable structure 150. The vertical axes in timing diagrams 1400 and 1450 represent the number of pixels illuminated in first and second imaging

sensors 14 and 16, respectively. The horizontal axes represent the time, or phase, of the rotation of fourth rotatable structure 150.

Paragraph deleted from page 30 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 27 on page 30 and ends at line 5 on page 31.

FIGS. 25A and 25B illustrate timing diagrams for the operation of fifth rotatable structure 170. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1500 (FIG. 25A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1550 (FIG. 25B). The operation of fifth rotatable structure 170 is separated into twelve regions (denoted by Roman numerals I-XII) that correspond to the sectors of fifth rotatable structure 170. The vertical axes in timing diagrams 1500 and 1550 represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes represent the time, or phase, of the rotation of fifth rotatable structure 170.

Paragraph deleted from page 38 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 18 and ends at line 25.

FIGS. 26A and 26B illustrate timing diagrams for the operation of chopped-wheel 190. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1600 (FIG. 26A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral

1650 (FIG. 26B). The operation of choppered-wheel 190 is separated into fourteen regions (denoted by Roman numerals I-XIV) that correspond to the sectors of choppered-wheel 190. The vertical axes in timing diagrams 1600 and 1650 represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes represent the time, or phase, of the rotation of choppered-wheel 190.

Paragraph deleted from page 49 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 4 and ends at line 23.

FIGS. 27A, 27B and 27C illustrate timing diagrams for the operation of the 3-chip camera 400. Timing for the operation of first imaging sensor 404 is denoted generally by reference numeral 1700 (FIG. 27A), timing for the operation of second imaging sensor 406 is denoted generally by reference numeral 1730 (FIG. 27B), and timing for the operation of third imaging sensor 408 is denoted generally by reference numeral 1760 (FIG. 27C). The operation of first rotatable structure 110 is separated into eight regions (denoted by Roman numerals I-VIII) that correspond to the sectors of first rotatable structure 110. The vertical axes in timing diagrams 1700, 1730, and 1760 represent the number of pixels illuminated in first, second, and third imaging sensors 404, 406, and 408, respectively. The horizontal axes represent the time, or phase, of the rotation of first and second rotatable structures 430 and 440.

APPENDIX F

In this appendix, as required under 37 C.F.R. 1.121(b)(1)(iii), the paragraphs which replace the paragraphs deleted from the original specification, under the section heading "Description of the Preferred Embodiments", are marked up to show all the changes relative to the previous version of the paragraphs. The changes are shown by brackets for deleted matter and underlining for added matter.

Paragraph deleted from page 15 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 4 and ends at line 12.

[FIG. 20 illustrates a] FIGS. 20A and 20B illustrate timing [diagram] diagrams for the operation of first rotatable structure 110. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1000 (FIG. 20A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1050 (FIG. 20B). The operation of first rotatable structure 110 is separated into eight regions (denoted by Roman numerals I-VIII) that correspond to the sectors of first rotatable structure 110. The vertical axes in timing diagrams 1000 and 1050 [represents] represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes [represents] represent the time, or phase, of the rotation of first rotatable structure 110.

Paragraph deleted from page 19 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 27 on page 19 and ends at line 5 on page 20.

[FIG. 21 illustrates a] FIGS. 21 A and 21B illustrate timing [diagram] diagrams for one embodiment of the operation of second rotatable structure 120.

Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1100 (FIG. 21A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1150 (FIG. 21B). The operation of second rotatable structure 120 is separated into six regions (denoted by Roman numerals I-VI) that correspond to the sectors of second rotatable structure 120. The vertical axes in timing diagrams 1100 and 1150 [represents] represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes [represents] represent the time, or phase, of the rotation of second rotatable structure 120.

Paragraph deleted from page 21 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 18 and ends at line 26.

[FIG. 22 illustrates a] FIGS. 22A and 22B illustrate timing [diagram] diagrams for another embodiment of the operation of second rotatable structure 120. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1200 (FIG. 22A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1250 (FIG. 22B). The operation of second rotatable structure 120 is separated into six regions (denoted by Roman numerals I-VI) that correspond to the sectors of second rotatable structure 120. The vertical axes in timing diagrams 1200 and 1250 [represents] represent the number of pixels illuminated in first and second

imaging sensors 14 and 16, respectively. The horizontal axes [represents] represent the time, or phase, of the rotation of second rotatable structure 120.

Paragraph deleted from page 25 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 15 and ends at line 23.

[FIG. 23 illustrates a] FIGS. 23A and 23B illustrate timing [diagram] diagrams for the operation of third rotatable structure 130. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1300 (FIG. 23A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1350 (FIG. 23B). The operation of third rotatable structure 130 is separated into ten regions (denoted by Roman numerals I-X) that correspond to the sectors of third rotatable structure 130. The vertical axes in timing diagrams 1300 and 1350 [represents] represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes [represents] represent the time, or phase, of the rotation of third rotatable structure 130.

Paragraph deleted from page 28 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 10 and ends at line 18.

[FIG. 24 illustrates a] FIGS. 24A and 24B illustrate timing [diagram] diagrams for the operation of fourth rotatable structure 150. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1400 (FIG. 24A) and timing for the operation of second imaging sensor 16 is

denoted generally by reference numeral 1450 (FIG. 24B). The operation of fourth rotatable structure 150 is separated into twelve regions (denoted by Roman numerals I-XII) that correspond to the sectors of fourth rotatable structure 150. The vertical axes in timing diagrams 1400 and 1450 [represents] represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes [represents] represent the time, or phase, of the rotation of fourth rotatable structure 150.

Paragraph deleted from page 30 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 27 on page 3 and ends at line 5 on page 31.

[FIG. 25 illustrates a] FIGS. 25A and 25B illustrate timing [diagram] diagrams for the operation of fifth rotatable structure 170. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1500 (FIG. 25A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1550 (FIG. 25B). The operation of fifth rotatable structure 170 is separated into twelve regions (denoted by Roman numerals I-XII) that correspond to the sectors of fifth rotatable structure 170. The vertical axes in timing diagrams 1500 and 1550 [represents] represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes [represents] represent the time, or phase, of the rotation of fifth rotatable structure 170.

Paragraph deleted from page 38 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 18 and ends at line 25.

[FIG. 26 illustrates a] FIGS. 26A and 26B illustrate timing [diagram] diagrams for the operation of choppered-wheel 190. Timing for the operation of first imaging sensor 14 is denoted generally by reference numeral 1600 (FIG. 26A) and timing for the operation of second imaging sensor 16 is denoted generally by reference numeral 1650 (FIG. 26B). The operation of choppered-wheel 190 is separated into fourteen regions (denoted by Roman numerals I-XIV) that correspond to the sectors of choppered-wheel 190. The vertical axes in timing diagrams 1600 and 1650 [represents] represent the number of pixels illuminated in first and second imaging sensors 14 and 16, respectively. The horizontal axes [represents] represent the time, or phase, of the rotation of choppered-wheel 190.

Paragraph deleted from page 49 of the original specification, under the section heading "Detailed Description of the Preferred Embodiments", which begins at line 14 and ends at line 23.

[FIG. 27 illustrates a] FIGS. 27A, 27B and 27C illustrate timing [diagram] diagrams for the operation of the 3-chip camera 400. Timing for the operation of first imaging sensor 404 is denoted generally by reference numeral 1700 (FIG. 27A), timing for the operation of second imaging sensor 406 is denoted generally by reference numeral 1730 (FIG. 27B), and timing for the operation of third imaging sensor 408 is denoted generally by reference numeral 1760 (FIG. 27C). The operation of first rotatable structure 110 is separated into eight regions (denoted by Roman numerals I-VIII) that correspond to the sectors of first

rotatable structure 110. The vertical axes in timing diagrams 1700, 1730, and 1760 [represents] represent the number of pixels illuminated in first, second, and third imaging sensors 404, 406, and 408, respectively. The horizontal axes [represents] represent the time, or phase, of the rotation of first and second rotatable structures 430 and 440.

APPENDIX G

In this appendix, as required under 37 C.F.R. 1.121(c)(1)(i), is a clean version of the rewritten claim with all changes included. A parenthetical expression follows the claim number indicating the status of the claim.

59. (Amended) A method comprising steps of:

integrating a first charge on a first sensor of a camera while a first image light reflects from a first reflection sector of a first rotatable structure onto the first sensor;

transferring the integrated first charge from the first sensor while at least one of a first transmission sector of the first rotatable structure, a second reflection sector of a second rotatable structure, and a second transmission sector of the second rotatable structure prevents the first image light from impinging on the first sensor;

integrating a second charge on a second sensor of the camera while a second image light reflects from the second reflection sector onto the second sensor;

transferring the integrated second charge from the second sensor while at least one of the first reflection sector, the first transmission sector, and the second transmission sector prevents the second image light from impinging on the second sensor;

integrating a third charge on a third sensor of the camera while a third image light passes through at least one of the first transmission sector and the second transmission sector onto the third sensor; and

transferring the integrated third charge from the third sensor while at least one of the first reflection sector and the second reflection sector prevents the third image light from impinging on the third sensor.

APPENDIX H

In this appendix, as required under 37 C.F.R. 1.121(c)(1)(ii), is a marked-up version of the rewritten claim marked up to show all the changes relative to the previous version of the claim. The changes are shown by brackets for deleted matter and underlining for added matter. A parenthetical expression follows the claim number indicating the status of the claim.

59. (Amended) A method [camera] comprising steps of:

integrating a first charge on a first sensor of a camera while a first image light reflects from a first reflection sector of a first rotatable structure onto the first sensor;

transferring the integrated first charge from the first sensor while at least one of a first transmission sector of the first rotatable structure, a second reflection sector of a second rotatable structure, and a second transmission sector of the second rotatable structure prevents the first image light from impinging on the first sensor;

integrating a second charge on a second sensor of the camera while a second image light reflects from the second reflection sector onto the second sensor;

transferring the integrated second charge from the second sensor while at least one of the first reflection sector, the first transmission sector, and the second transmission sector prevents the second image light from impinging on the second sensor;

integrating a third charge on a third sensor of the camera while a third image light passes through at least one of the first transmission sector and the second transmission sector onto the third sensor; and

transferring the integrated third charge from the third sensor while at least one of the first reflection sector and the second reflection sector prevents the third image light from impinging on the third sensor.